

CLAIMS

1. Panel (10) made with electrothermal fabric (40, 90) for generating and diffusing heat,
characterized in that it consists of a heat-radiating board (30, 80)
5 comprising one or more pieces of electrothermal fabric (40, 90), with a weft weave (50, 91) of continuous highly conductive wire (51) small in diameter and of considerable length, coated with insulating material (52) and having ends provided with electric contacts (75, 76, 105, 108, 109), said board (30, 80) being completed by interme-
10 mediate (81) and external (35, 36, 82, 83) layers of thermoadhesive material and covered on both surfaces by mica-based material (31, 32) so that on connecting the contacts (75, 76, 105, 108, 109) to a source of electric current, the wire (51) forming the weft (50, 91), converts the electric energy into thermal energy and diffuses heat
15 into the environment by radiation through the mica-based material (31, 32).
2. Panel (10) made with electrothermal fabric (40, 90) for generating and diffusing heat, as in claim 1,
characterized in that the warp weave (43-45) of the pieces of fabric
20 (40, 90) consists of parallel strips, laid side by side, formed of thin threads (46) of fibreglass.
3. Panel (10) made with electrothermal fabric (40, 90) for generating and diffusing heat, as in claims 1 and 2,
characterized in that the wire (51) constituting the weft (50, 91)
25 extends continuously from a first corner on a first side (55) of the piece (40, 90) of fabric, crosswise to the warp strips (43-45) passing alternatively over a first face of the first strip (43), over the second face of the next strip (44), over the first face of the strip next again and so on to reach the opposite side (56) of the piece (40, 90) and
30 from there, after making a bend (57) at 180°, said wire (51) returns towards the first side (55) closely aligned along the whole of the

previously inserted length and, from this first side (55) said wire (51) makes a bend (58) at 180° and returns towards the opposite side (56) of the piece (40, 90) passing over the second face of the first strip (43), over the first face of the next strip (44), over the second
 5 face of the strip next again and so on, to complete the whole weft (50, 91) of the piece (40, 90), the effect of aligning the lengths of conducting wire (51), through which electric current passes in the opposite direction of flow, being to eliminate electric fields.

4. Panel (10) made with electrothermal fabric (40,90) for generating
 10 and diffusing heat, as in claim 1, characterized in that the highly conductive wire (51) of the weft weave (50) is of copper.

5. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 1,
 15 characterized in that the electric contacts (75, 76, 105, 108, 109) are joined at the two ends of the wire (51) that makes the weft (50, 91) and that are to be used for transforming electric current into thermal energy, a hole (65-66, 95-98) being made by suitable means (60, 100, 101) in the thermoadhesive layer (36, 82, 83) which covers one
 20 or both surfaces of the electrothermal board (30, 80), said hole (65,66, 95-98) also comprising the insulating coating (52) on the wire (51), a weld (70, 71, 102, 103, 106, 107) or equivalent means being made in said hole (65-66, 95-98) to connect said wire (51) to an electric contact (75, 76, 105, 108, 109).

25 6. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 5, characterized in that the hole (65-66, 95-98) is made by a grinder.

7. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 5,
 30 characterized in that the hole (65,66, 95-98) is made by sanding.

8. Panel (10) made with electrothermal fabric (40,90) for generating

- and diffusing heat, as in claim 5,
characterized in that the hole (65,66, 95-98) is made by a laser beam (60, 100,101) the nature of which causes it to penetrate the insulating coating (52) on the wire (51) forming the weft (50,91) but
5 then be repelled by the metal of the wire (51).
9. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 1,
characterized in that the heat-radiating board (30, 80) is mounted inside a protective frame (20).
- 10 10. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 9,
characterized in that the frame (20) is made of two opposing halves (21,22) of a constant section in accordance with an angle of 90° ,
having internal shapes and dimensions corresponding to the
15 external shapes and dimensions of the internal parts (30) of the panel (10) and being provided with means for stable assembly.
11. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 9,
characterized in that the external dimensions of one half (22) of the
20 frame correspond to the internal dimensions of the other half (21).
12. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 1,
characterized in that it is square in shape.
13. Panel (10) made with electrothermal fabric (40,90) for generating
25 and diffusing heat, as in claim 1,
characterized in that the outer sheets (31, 32) are of micanite.
14. Panel (10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 13,
characterized in that the micanite (31, 32) is made from flakes of
30 mica glued onto paper or cloth (33).
15. Panel (10) made with electrothermal fabric (40,90) for generating

and diffusing heat, as in claim 1,
characterized in that the outer sheets (31,32) are of micarta.

16. Panel(10) made with electrothermal fabric (40,90) for generating
and diffusing heat, as in claim 15,

5 characterized in that the micarta (31,32) is applied to a base of
fibreglass.

17. Panel(10) made with electrothermal fabric (40,90) for generating
and diffusing heat, as in claim 15,

10 characterized in that the micarta (31, 32) is impregnated with poly-
ester or epoxy resins.

18. Panel(10) made with electrothermal fabric (40,90) for generating
and diffusing heat as in claim 1

characterized in that a thermal sensor (120) is placed in a central
position on the heat-radiating board (30, 80), it being possible to join
15 the ends of said sensor to the two ends of an interruption in the
continuous wire (51) that forms the weft weave (50, 91), said sensor
(120) breaking the electric circuit of the heat-radiating board (30, 80)
when its temperature rises above a certain level.

19. Panel (10) made with electrothermal fabric (40,90) for generating
20 and diffusing heat as in claim 1,

characterized in that the wire (51) that creates the weft (50, 91) is
continuous over substantially two halves of the piece of fabric, the
ends of the copper wire (51), that corresponds to said two halves,
being connected to a thermoelectric sensor (120) that automatically
25 turns electric current off in that half of the piece in which the pre-set
temperature level may have been exceeded.

20. Panel(10) made with electrothermal fabric (40,90) for generating
and diffusing heat as in claim 1,

characterized in that the heat-radiating board (80) comprises two
30 pieces of electrothermal fabric (40, 90), superimposed and with
thermoadhesive layers in between (81) and at the ends (82, 83).

21. Panel(10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 20,
characterized in that the wires (51) forming the weft (50, 91) of the two superimposed pieces of fabric (40, 90) are connected in parallel.
- 5 22. Panel(10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 20,
characterized in that the wires (51) forming the weft (50,91) of the two superimposed pieces of fabric (40,90) are connected in series.
- 10 23. Panel(10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claims 1 and 20,
characterized in that the thermoadhesive material (35, 36, 81-83) is epoxidic.
- 15 24. Panel(10) made with electrothermal fabric (40,90) for generating and diffusing heat, as in claim 1,
characterized in that the surface of the head-radiating board (30, 80) to remain on view is covered with a sheet (33) of decorative melamine.

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